

GATE DIELECTRICS WITH IMPROVED LEAKAGE CHARACTERISTICS

ABSTRACT

5 Methods for forming an oxynitride dielectric in a semiconductor device are disclosed. In the method, an oxynitride layer is grown on a semiconductor device. The oxynitride layer is then annealed at a temperature of about 400°C for about 20 minutes. Further, the annealing may be performed in a nitrogen ambient or a nitrogen ambient including an oxygen concentration of less than about 1 to about 10 parts per billion.